# Emerging Evidence on Improving Student Achievement and Graduation Rates

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Evidence in the literature clearly points to the ninth grade year as the key to dropout prevention. The ninth grade “transition” year is when students get “stuck” . According to Neild 50% of dropouts never earn enough credits to move beyond the ninth grade year, even after multiple years in high school. “Overall, the studies indicate that instructional improvement and personalization are the twin pillars of high school reform” . Researchers have identified several key indicators to identify who is most likely to drop out, including: poor grades in core subjects , students with low grade point averages in the D+ or C- range, or just one failure in the first semester (two semester failures for the year) , low attendance , failure to be promoted to the next grade, and disengagement in the classroom, including behavioral problems .

Middle school is an area where students can be identified as potential drop outs even earlier. Eighth-graders who miss five weeks or more of school or fail math or English have at least a 75% chance of dropping out of high school and many future dropouts may be identified as early as sixth grade . Kennelly and Monrad describe “a window of opportunity in reaching middle-grades students who show signs of poor behavior but who are not yet failing academic subjects” (p. 1). However, they add that “by the time future dropouts get to high school, poor behavior and course failure tend to converge among many students who eventually leave school” .

Allensworth and Easton list several “on track” indicators for students at the end of ninth grade that are 85% successful at predicting who will and will not graduate . According to their study, “on-track” students are 4 times more likely to graduate than off-track students. Indicators include: on track students have earned enough credits for promotion to tenth grade, and no more than one F in a core academic subject. Kennelly and Monrad add that promotion minimums are based on 5 full-year course credits.

Neild describes four main theories found in the literature of why students get stuck in their ninth grade year, including life-course changes, transition to a new school, inadequate academic preparation for high school, and high school organization and climate . “Parental influence wanes when children enter high school”, however, the body of research indicates that this theory cannot fully explain the problem. Likewise, evidence in the literature indicates that transition to new school is not likely a major cause . Two areas emerged in the literature as primary areas of concern for improving student achievement and graduation rates: inadequate preparation for high school, particularly reading and math skills below grade level and high school organization and climate .

In reading, the greatest challenge for most freshmen is reading with fluency and comprehension . Additionally, a thorough understanding of fractions, decimals, and signed numbers during the middle grades is missing for many students struggling with math. “Studies of cohorts of Philadelphia students showed that failing math or English in the middle grades was a better predictor than standardized test scores of academic difficulty in ninth grade [indicating that] academic attitudes, behaviors, and coping strategies developed before high school have an effect on ninth-grade outcomes” (p. 61). Extended learning time, or a “double-dose”, of math and/or reading in 90 minute daily blocks for students with skill deficits shows evidence of increasing student achievement in these areas (Neild, 2009).

High school organization and climate emerged as the second area of major concern . Disorganization at beginning of year, such as not having enough desks due to purposeful over-filling classes and schedule and teacher changes led more students to feel disconnected from school, have difficulty transitioning to high school, and ultimately to dropping out of school altogether. “High schools that were ‘communally’ organized—where there was shared responsibility and decision making among staff, a commitment to a common set of goals, and an emphasis on personal relationships between teacher and students—experienced greater learning gains than their peers at ‘bureaucratically’ orga­nized schools” .

## Research-based Best Practices

How do we address the two main areas of concern revealed in the literature: addressing academic skill deficits in math and reading to prepare students academically for high school and creating the organization and climate that connects students to school. From prior practice, it is also evident that organizational change is necessary to support teachers in change efforts.

Kennelly and Monrad identify three common elements shared across numerous successful intervention programs: attention to school climate in order to facilitate student engagement, rigorous coursework for all students, and effective use of extended learning time during the school day such as the block schedule. Kennelly and Monrad further break down the list to common elements to 15 key characteristics of successful research-based high school improvement programs that can be divided into the two areas of concern (see Table 1).

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| **Academic Preparation** | | **Organization and Climate** | | |
| Focus on achievement in core courses | Tiered approach to providing behavioral and/or academic support from universal to most intensive | Ensuring partnerships between high schools and feeder middle schools | Ninth Grade Academies or transition programs | Small learning communities for greater personalization/School within a school |
| Catch-up courses | Tutoring as an academic support | Attendance and behavior monitors | Homeroom, teams or looping | Community engagement |
| Focus on positive effects for diverse students | Focus on positive effects for students with disabilities | Family engagement | Counseling/Mentoring | Career/College awareness |

Table 1. Key characteristics of successful research-based high school improvement programs

## Addressing academic skill deficits in math and reading

The literature provides specific curriculum evaluation for several reading and math interventions aimed at addressing academic skill deficits in these areas. Besides specific curriculum, research provides evidence that extended time or “double-dosing” of math and reading in daily, 90 minute blocks during the ninth grade year leads to increases in student achievement . In addition, students who continue to demonstrate skill deficits at the end of the ninth grade year benefit from double-dosing in the tenth grade year.

## Creating the organization and structure to connect students to school

“Small learning communities, in which groups of students share the same cadre of core subject teachers, help students feel that their teachers know and care about them, as student survey data from two evaluations attest” . Kennelly and Monrad conclude that grouping ninth graders into interdisciplinary teams resulted in significantly lower dropout rates. Herlihy and Quint found that first time ninth graders placed in separate freshmen academies achieved an average increase in attendance of 9 days and an 8% increase in rate of promotion to grade 10. Furthermore, thematic based smaller learning communities involving a freshmen academy model or all four high school grades showed increased attendance of 3 to 15 days per year and decreased dropout rates with 3 to 6 fewer students out of every 100 students dropping out . Neild cautions that teaming needs to continue beyond ninth grade to include supportive, smaller learning communities in the upper grades.

Neild also recommends a voluntary, four week, 5 days per week, summer bridge program between eighth and ninth grade for students in the 35th to 49th percentile in reading or math scores since this is the group often overlooked. According to Neild , students in this score range are most likely to be helped by this type of program and most likely to become disconnected from school during the ninth grade transition year. Students at lower levels are likely already fairly disconnected from school with significant absenteeism as the major cause for low scores, grades, and disengagement. A summer bridge program can help students Increase math and/or reading comprehension skills, teach study strategies, orient students to layout of the school, and introduce students to teachers and class mates .

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## What supports do teachers need to increase instructional effectiveness in the classroom?

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### *Time and Space*

Time, more than any other change factor, influences teachers’ ability to make curriculum changes in the classroom . Teachers need time for preparation, curriculum development, ongoing formal education, and collaboration. Teachers request common preparation time and space in order to collaborate more effectively with their colleagues. Neild agrees adding that teachers need time and space for collaboration, preparation of teaching materials, and professional development.

Personal commitments and extra-school duties take away from teachers’ ability to dedicate time outside of the negotiated contract. Teachers need more time for preparation, curriculum development, collaboration, and knowledge building incorporated into every school day and the negotiated contract. Teachers also need blocks of student-free time before the school year, at the end of the school year, and during the school year to work on all aspects of curriculum change. Teachers also request extra time during the school day to counsel with struggling students .

Teachers integrating a substantive component to curriculum, like interdisciplinary teams, need multiple and focused opportunities away from the daily grind of the classroom and school. Collegiality is a strong indicator of curriculum change success and is measured by frequency of communication, mutual support, and help among teachers (Fullan, 2007). A curriculum development workshop held off-campus the week prior to the beginning of school in the fall, followed by several one-day workshops throughout the school year, will help teachers begin planning major curriculum changes. Finally, teachers need an additional workshop the week prior to the beginning of school for the following academic year. This will create the time and space teachers need to collaborate with their colleagues, make significant changes to their curriculum, adapt curriculum materials to their style, and increase student learning through the curriculum change process.

### *Professional Development*

Research shows that comprehensive school reform requires ongoing professional development in teaming, integrating curriculum, and specific content interventions (Neild, 2009). “Teachers who received training on teaching Talent Development’s catch-up courses reported that the training helped them deliver their lessons more effectively” .

### *Encouragement*

Overall, change needs to be voluntary, but teachers need to encouragement to change as they become stagnant. Ongoing coaching can help teachers make better use of even well-designed curricula . Neild recommends assigning a coach assigned to each team. The does not have discipline-specific duty, but facilitate teacher meetings, coordinates professional development, and provide constructive feedback on lessons. The coach only works with what team teachers come up with during the year and does not provide additional curriculum implementation expectations.

### *Feedback*

Throughout the year, instructional leadership from administrators and talented colleagues gives teachers formative assessment while they practice, adapt, and perfect lessons in their own teaching style (Davis, 2009). Reflecting on teaching practices and professional development needs helps teachers and administrators address current and future plans for improving student achievement. Electronic journaling proves to be a convenient way for teachers to reflect on their teaching practices and receive feedback from coaches and administrators (Davis, 2009). Data-driven formative assessments, and feedback from students, parents, and colleagues also provide important feedback to improve classroom instruction (Davis, 2009).

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